```
=> d his

     (FILE 'HOME' ENTERED AT 13:02:52 ON 24 SEP 2001)

     FILE 'CA' ENTERED AT 13:03:03 ON 24 SEP 2001
L1            36 S SILICA# AND S-VALUE
L2        435585 S SOL OR SOLS OR AQUASOL
L3             6 S L1 AND L2

=> d 1-6 bib,ab

L3   ANSWER 1 OF 6  CA  COPYRIGHT 2001 ACS
AN   133:337274  CA
TI   Silica-based sols suitable as drainage aids for paper
     production
IN   Persson, Michael; Tokarz, Marek; Dahlgren, Maj-lis; Johansson-vestin, Hans
PA   Akzo Nobel N.V., Neth.; Eka Chemicals Ab
SO   PCT Int. Appl., 24 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
     ---------------    ----  --------      ---------------  --------
PI   WO 2000066492       A1   20001109      WO 2000-SE822    20000428
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
             CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
             ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
             LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
             SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI EP 1999-850074    A    19990504
     US 1999-132359    P    19990504
     SE 1999-1687      A    19990506
     EP 1999-850160    A    19991029
     US 1999-162445    P    19991029
AB   An aq. silica sol with S-value
     10-45%, sp. surface area .gtoreq.115 m2/g-sol, particle sp.
     surface area 550-1000 m2/g-SiO2 and SiO2/M2O molar ratio (M is alkali
     metal or ammonium) of 15:1 to 40:1, or a silica content of
     .gtoreq.10 wt.%, is produced by (a) acidifying an aq. silicate soln. to pH
     1-4 to form an acid sol; (b) alkalizing the acid sol
     at SiO2 concn. of 4.5-8 wt.%; (c) allowing particle growth of the
     alkalized sol for .gtoreq.10 min, or heat-treating the alkalized
     sol at .gtoreq.30.degree.C; (d) alkalizing the sol to pH
     .gtoreq.10.0, and (e) optionally concg. the sol obtained in
     (b)-(d).  The resulting silica-based particles can be used as
     drainage and retention aids in the prodn. of paper from aq. suspensions
     contg. cellulosic fibers and fillers, to which the silica-based
     particles and .gtoreq.1 charged org. polymer are added.
RE.CNT  9
RE
(1) Akzo Nobel Nv; WO 9856715 A 1998 CA
(2) Eka Nobel Ab; WO 9107350 A 1991 CA
(3) Eka Nobel Ab; WO 9107351 A 1991 CA
(4) Eka Nobel Ab; US 5368833 A 1994 CA
(5) Eka Nobel Ab; WO 9405596 A 1994 CA
```

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 6 CA COPYRIGHT 2001 ACS
AN 133:337273 CA
TI **Silica**-based **sols** suitable as drainage aids for paper production
IN Persson, Michael; Tokarz, Marek; Dahlgren, Maj-lis
PA Akzo Nobel N.V., Neth.; Eka Chemicals Ab
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000066491	A1	20001109	WO 2000-SE821	20000428

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI	EP 1999-850074	A	19990504
	US 1999-132359	P	19990504
	SE 1999-1687	A	19990506
	EP 1999-850160	A	19991029
	US 1999-162445	P	19991029

AB An aq. **silica sol** with **S-value** 10-45%, viscosity 5-40 cP, and SiO2/M2O molar ratio (M is alkali metal or ammonium) of 10:1 to 40:1, or a **silica** content of .gtoreq.10 wt.%, is produced by (a) acidifying an aq. silicate soln. to pH 1-4 to form an acid **sol**; (b) alkalizing the acid **sol** at SiO2 concn. of 4.5-8 wt.%; (c) allowing particle growth of the alkalized **sol** for .gtoreq.10 min, or heat-treating the alkalized **sol** at .gtoreq.30.degree.C; then (d) alkalizing the **sol** to pH .gtoreq.10.0. The resulting **silica**-based particles can be used as drainage and retention aids in the prodn. of paper from aq. suspensions contg. cellulosic fibers and fillers, to which the **silica**-based particles and .gtoreq.1 charged org. polymer are added.

RE.CNT 11
RE
(2) Eka Nobel Ab; WO 9107350 A 1991 CA
(4) Eka Nobel Ab; WO 9405595 A 1994 CA
(5) Eka Nobel Ab; WO 9405596 A 1994 CA
(6) Eka Nobel Ab; US 5603805 A 1997 CA
(7) Eka Nobel Ab; US 5607552 A 1997 CA
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 6 CA COPYRIGHT 2001 ACS
AN 130:238737 CA
TI Disperse dyeing fabrics of fine fibers or regular yarns with high color yield using porous inorg. particles or water-soluble polymers and water-soluble salts as dyeing aids
IN Usui, Hiromi; Masuda, Yutaka
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11061655	A2	19990305	JP 1997-230735	19970827

AB Disperse-dyed fabrics with high color yield are prepd. by dyeing fabrics with liqs. contg. disperse dyes, nonionic or anionic porous inorg. particles and/or heat-gelable water-**sol**. polymers, and water-**sol**. inorg. salts. A woven fabric of regular polyester yarns was dyed with a liq. contg. 2% (on fiber) Disperse Black T-1 and Na2SO4 100, Sylysia 358 (**silica** particles) 20, and Metolose SM-15 (methylcellulose) 2 g/L for 45 min at 130.degree. to give a dyed fabric with color yield K/**S value** 180.

L3 ANSWER 4 OF 6 CA COPYRIGHT 2001 ACS
AN 124:235270 CA
TI Suspensions of **silica**-based particles and bentonite
AU Anon.
CS UK
SO Res. Discl. (1995), 375, P467 37509
CODEN: RSDSBB; ISSN: 0374-4353
DT Journal
LA English
AB The retention effect of suspensions contg. different types of bentonite was evaluated. The suspensions were prepd. by using a **silica sol**, which had an **S-value** of .apprx.30% and contained **silica** particles having a sp. surface area of .apprx.900 m2/g, which were surface modified with Al to a degree of 5%, and synthetic Na bentonite and natural Na bentonite, resp. Both suspensions had a wt. ratio of **silica**-based particles to bentonite of 2:1 and a dry content of 9.2 wt.%. The suspensions were used in combination with a highly cationic starch which was added to the stock before the inorg. particles and dosed in an amt. of 20 kg/ton of dry stock, which was based on 70% groundwood pulp and 30% bleached pine sulfate pulp, to which 30 wt.% of china clay was added as a filler. Addn. of the natural bentonite suspension gave good improvement in retention.

L3 ANSWER 5 OF 6 CA COPYRIGHT 2001 ACS
AN 115:235763 CA
TI Manufacture and use of **silica sols**
IN Johansson, Hans Erik; Larsson, Bo Valdemar
PA Eka Nobel AB, Swed.
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 23 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1051709	A	19910529	CN 1990-109033	19901109
	CN 1029950	B	19951011		

AB SiO2 gel, having **S-value** 8-45% (**S-value** relates to the degree of formation of microgel: the larger the **S-value** the higher the microgel content) and apparent surface area of SiO2 particles 750-1000 m2/g (the surface, or 2-25% of the surface of the SiO2 is Al-modified) is prepd. by adjusting the pH of a water glass soln. to 1-4, increasing the pH of the soln. with water glass, controlling the SiO2 content at 4.5-7 wt.% to obtain SiO2 gel particles, and stabilizing the particles by modifying the surface with

Na3AlO3. The gel, combined with cationic polymer, is used as filler in paper manuf.

L3 ANSWER 6 OF 6 CA COPYRIGHT 2001 ACS
AN 115:161497 CA
TI Preparation of **silica sols** and their use in papermaking
IN Johansson, Hans Erik; Larsson, Bo Valdemar
PA Eka Nobel AB, Swed.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9107350	A1	19910530	WO 1990-SE689	19901024
	W: AU, BR, CA, FI, JP, KR, NO, SU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	SE 8903753	A	19910510	SE 1989-3753	19891109
	SE 500387	C2	19940613		
	CA 2067506	AA	19910509	CA 1990-2067506	19901024
	CA 2067506	C	19961022		
	AU 9067334	A1	19910613	AU 1990-67334	19901024
	AU 628692	B2	19920917		
	EP 491879	A1	19920701	EP 1991-900406	19901024
	EP 491879	B1	19940622		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	BR 9007822	A	19920901	BR 1990-7822	19901024
	JP 04505314	T2	19920917	JP 1990-515829	19901024
	JP 05009368	B4	19930204		
	ES 2055581	T3	19940816	ES 1991-900406	19901024
	FI 9202056	A	19920506	FI 1992-2056	19920506
	FI 96942	B	19960614		
	FI 96942	C	19960925		
	US 5368833	A	19941129	US 1992-855647	19920508
	RU 2068809	C1	19961110	RU 1992-5052291	19920508
	NO 9201848	A	19920511	NO 1992-1848	19920511
	LV 10227	B	19950420	LV 1992-292	19921211
	LT 3224	B	19950425	LT 1993-445	19930319
	US 5643414	A	19970701	US 1994-265785	19940627
	CN 1115817	A	19960131	CN 1995-101155	19950110
	CN 1052770	B	20000524		
PRAI	SE 1989-3753	A	19891109		
	WO 1990-SE689	A	19901024		
	US 1992-855647	A3	19920508		

AB **Silica sol** particles, having a sp. surface area 750-1000 m2/g, and useful in papermaking, are manufd. by acidification of water glass soln., alkalization at certain solids content, particle growth, and Al modification to a degree of 2-25%. Thus, Na silicate soln. (contg. 24.2% SiO2) was dild. with H2O, cation-exchanged, alkalized with a Na silicate soln. contg. 5.5% SiO2, heat-treated at 38.degree. for 40 min., cooled to ambient temp., and then modified with Na aluminate to give a **sol** having a sp. surface area 910 and m2/g, **S-value** 32, and good stability. A bleached birch kraft and pine kraft (having a fines fraction 37.2% and a pH 7.5) was modified with 0.3 kg/ton polyacrylamide (I) and 1.0 kg/ton modified **silica sol**. showing retention 86.7%, compared with 70.7% for a stock contg. I and a com. **sol** having a sp. surface area 500 m2/g instead of the Al-modified **silica sol**.